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NEW BATS OF THE GENUS *STURNIRA*
(PHYLLOSTOMIDAE) FROM THE AMAZONIAN
LOWLANDS OF PERÚ AND THE WINDWARD
ISLANDS, WEST INDIES

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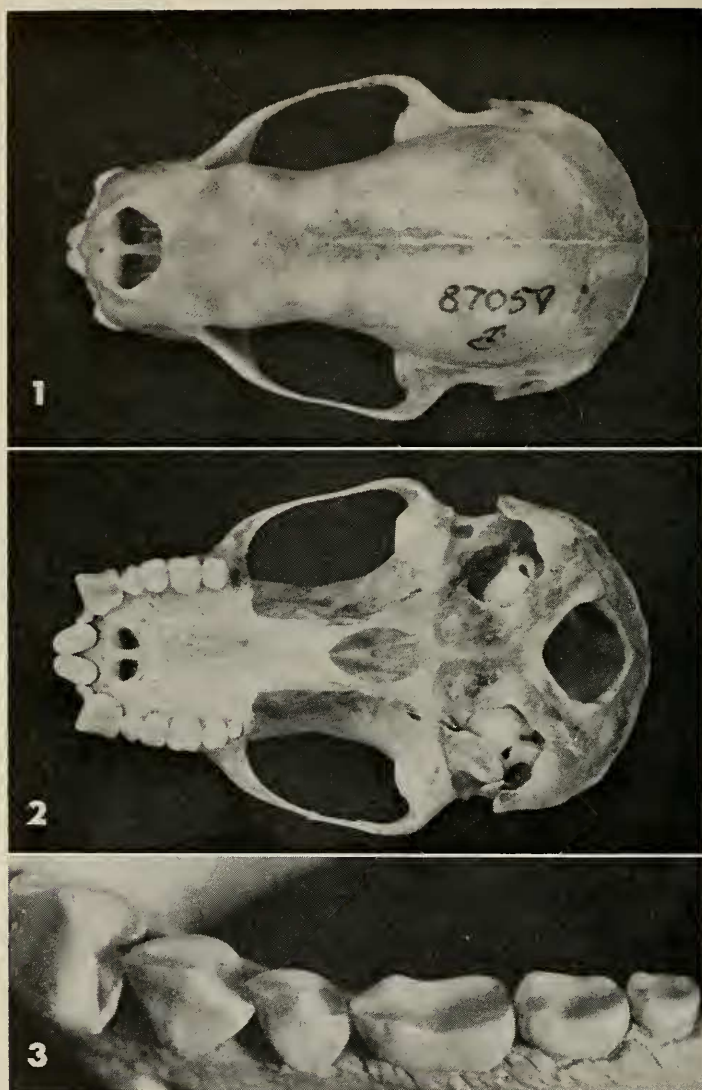
The study of the bats of the genus *Sturnira* from South America and the West Indies has resulted in the finding of two previously undescribed species. One, the largest of all the species of *Sturnira*, occurs in the eastern lowlands of Perú associated with the Rio Ucayali basin. The other occurs in the forested parts of the islands of Dominica and Martinique in the West Indies. The purpose of this paper is to name and describe these interesting species.

I am grateful to Albert Schwartz for the opportunity to study the important series of *Sturnira* collected by him and his colleagues in the West Indies. These specimens are in his private collection (ASFS). I also wish to express my appreciation to Richard G. Van Gelder and Karl F. Koopman, American Museum of Natural History (AMNH); Charles O. Handley, Jr., U. S. National Museum (USNM); Barbara Lawrence, Museum of Comparative Zoology (MCZ); and S. Dillon Ripley, formerly of the Peabody Museum (PM), for their cooperation and interest in facilitating my study of the *Sturnira* material in their collections.

***Sturnira magna*, new species**

Figs. 1-3

Holotype: Adult male (skin and skull), no. 87059, Field Museum of Natural History, from Santa Cecilia (100 m), Río Maniti, Iquitos, Department of Loreto, Perú, collected by Celestino Kalinowski, 3 January 1957, original field no. 2172.



FIGS. 1-3. *Sturnira magna*, FMNH 87509, holotype: 1, dorsal view of skull ($\times 2.7$); 2, ventral view of skull ($\times 2.7$); 3, lateral view of left mandibular tooth row ($\times 10.5$).

Distribution: Known only from the Amazonian lowlands of north-eastern and central Perú.

Diagnosis: The largest known species of *Sturnira*; lower incisors trilobed; metaconid of first and second molars extending posteriorly as a gradual sloping ridge; entoconid absent; upper molars with low, rounded labial and lingual cusps.

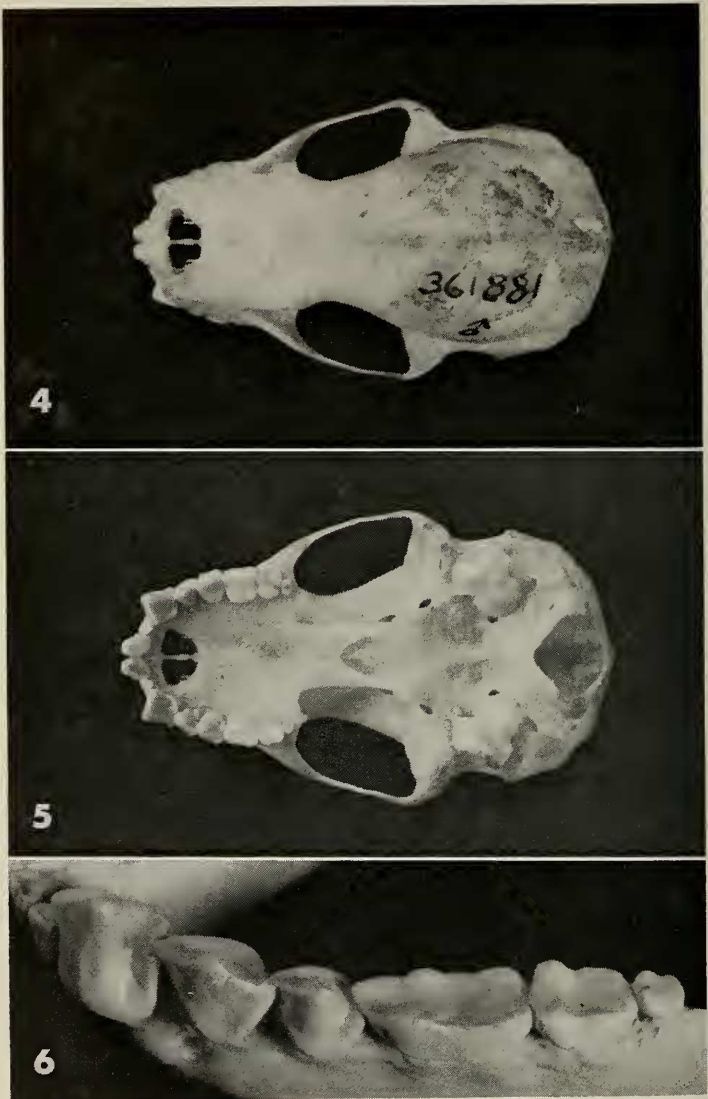
Description: Overall color of pelage yellowish or golden brown; hair white at base; epibasal band (about 2.5 mm) light grayish brown; subterminal band broad (about 3.5 mm), light buff; terminal band narrow (about 0.5 mm) and dark brown. Proximal two-thirds of forearm relatively heavily haired on dorsal and ventral surfaces; posterior edge of interfemoral membrane with fringe of long hair, about 6 mm at level of knee. Feet large (19–21 mm), dorsal surface covered with hair. Skull proportions essentially as in *S. ludovici* Anthony but skull much larger and broader with broad zygomatic breadth; teeth relatively small (only slightly larger than in largest specimen of *S. ludovici*); upper teeth with cusps rounded and reduced in height; upper tooth rows arching symmetrically; mandibular teeth similar to those of *S. ludovici* except with lower cusps; molars flatter, with broader occlusal surface than in *S. ludovici*; paraconid, protoconid, and metaconid relatively well separated; entoconid completely suppressed; lower incisors trilobed, with middle lobe slightly lower than lateral lobes.

Comparisons: The large size of the wing and the corresponding large size of the skull in addition to the peculiarities in dentition described above, distinguish *S. magna* from all known species of *Sturnira*. *S. mordax* Goodwin is a much smaller species with a long, narrow skull and with long tooth rows.

Remarks: It is noteworthy that such a large and distinct species as *Sturnira magna* has remained undiscovered for so many years. It probably occurs throughout the Rio Ucayali basin and associated drainages of northeastern Perú.

Measurements: Measurements of holotype (in italics) followed by the mean and extremes of five male and three female paratypes (all measurements in mm): forearm, *56.3*, 57.4 (56.3–59.6); metacarpal III, *55.0*, 57.6 (55.0–59.0); metacarpal IV, *56.0*, 57.8 (56.0–59.0); metacarpal V, *58.5*, 60.2 (58.5–62.8); greatest skull length, *29.0*, 28.7 (27.9–29.1); condylobasal length, *25.6*, 26.1 (25.5–26.5); zygomatic breadth, *17.4*, 17.1 (16.3–17.4); mastoid breadth, *15.4*, 15.1 (14.4–15.4); palatal length, *13.3*, 13.2 (12.4–13.3); interorbital constriction *7.7*, *7.5* (7.1–7.7); postorbital constriction *7.4*, *7.2* (7.0–7.4); maxillary tooth row, *7.8*, *7.7* (7.3–7.9); maxillary width, *9.5*, *9.3* (9.0–9.6); mandible, *19.2*, 18.0 (18.3–19.2); mandibular tooth row *8.9*, *8.7* (8.1–8.9). Collector's measurements of the holotype (in italics) and of the specimen from San Juan are as follows: forearm, *58*, —; head and body, *90*, *88*; foot, *21*, *21*; ear, *22*, *21*; weight, —, *50* gms.

Paratypes: Total, 8. PERÚ. Department of Loreto, Iquitos, Río Maniti, Santa Cecilia (110 m), 4 (FMNH). Department of Pasco,



FIGS. 4-6. *Sturnira angeli*, USNM 361881, holotype: 1, dorsal view of skull ($\times 2.7$); 2, ventral view of skull ($\times 2.7$); 3, lateral view of left mandibular tooth row ($\times 10.5$).

Province of Oxapampa, San Pablo (900 ft), 3 (AMNH), San Juan (900 ft), 1 (USNM).

Sturnira angeli, new species

Figs. 4-6

Sturnira lilium, Allen, 1911, Bull. Mus. Comp. Zool., 54: 233 (Dominica).

Holotype: Adult male (skin and skull), no. 361881, United States National Museum, from 6 mi. NE Roseau (1000 ft), St. Paul Parish, Dominica, Windward Islands, West Indies, collected by R. F. Klinikowski, 21 February 1962, original no. ASFS 5354.

Distribution: Known from the islands of Dominica and Martinique.

Diagnosis: A species of *Sturnira* of medium size: hair long and dark grayish brown in color; interfemoral membrane heavily furred. Lower incisors trilobed; paraconid of first molar well developed; protoconid separated from paraconid by a low interconnecting ridge; protoconid of first molar well developed, highest of all cusps; metaconid and entoconid low and rounded.

Description: Dorsum dark grayish brown; hair with narrow white basal band (less than 1 mm) followed by relatively broad dark grayish-brown band, an equally broad buff band, and narrow, very dark reddish-brown apical band. Underparts dull dark brown; throat and ventral region similarly colored; hair with narrow white basal band followed by broad, dark brown band and terminating in dull grayish-brown band. Dark epibasal band of dorsum becomes paler and narrower anteriorly while the subterminal band increases in width and becomes paler.

Skull relatively long with small braincase and long rostrum; rostrum and braincase lower in height than in *S. lilium* as seen in profile; labial cusps of upper molars forming a sharp ridge as is typical of *S. lilium*, but commissure between protocone and metacone of first molar shallow, not deeply concave as in *S. lilium*; upper and lower third molars smaller than in *S. lilium*; lower incisors trilobed; lingual cusps of lower molars reduced as compared with *S. lilium*; paraconid well developed but low in height, extending anteriorly as relatively low ledge; paraconid and protoconid of first molar well separated, not fusing with each other; metaconids and entoconids low and separated from each other by shallow notch (not deep as in *S. lilium*). Shape of tooth rows essentially as in *S. lilium*.

Comparisons: *S. angeli* differs from *S. lilium* in being smaller, in having a completely different skull shape, and in having low, rudimentary metaconids and entoconids. From *S. ludovici* *S. angeli* differs in having trilobed lower incisors, and in possessing metaconids and entoconids. From *S. mordax* and *S. tildae* it differs in skull shape, in having *lilium*-like upper molars, in having lower molars with more distinct metaconids and entoconids, and in having the protoconid displaced labially, resulting in a continuous trough from the anterior to the posterior part of the tooth. In *S. tildae*, *S. mordax*, and *S. ludovici* the

paraconid, metaconid, and protoconid are close together and are not ridge-like as in *S. angeli*.

Remarks: According to Albert Schwartz (personal communication) the series from the vicinity of Roseau, Dominica, was taken in nets set across two streams 25 and 15 feet in width. He describes these streams as "fairly placid and not torrential at the localities of the nets" and states further that ". . . here we took *Artibeus* commonly in the same nets (although *Brachyphylla* only rarely)." Both streams were in rain forest with no adjacent cultivated areas.

This distinct species is named for an individual whose lifetime of teaching and practicing of perfection in another field has materially influenced my own philosophy in biology. It is named in honor of my father, Angel de la Torre.

Measurements: Measurements of holotype (in italics) followed by the mean and extremes of four male and five female paratypes: forearm, 44.3, 44.0 (42.4-45.6); metacarpal III, 42.8, 42.9 (40.7-44.5); metacarpal IV, 43.1, 42.6 (41.5-44.7); metacarpal V, 44.3, 44.1 (42.6-44.9); greatest skull length, 23.4, 23.4 (22.5-23.9); condylobasal length, 21.3, 21.4 (20.3-22.0); zygomatic breadth, 13.5, 13.1 (12.5-13.7); mastoid breadth, 11.7, 11.6 (11.2-12.0); palatal length, 10.1, 10.0 (9.6-10.8); interorbital constriction, 6.5, 6.1 (5.5-6.5); postorbital constriction, 6.5, 5.9 (5.4-6.5); maxillary tooth row, 7.2, 6.9 (6.6-7.2); maxillary width, 8.3, 8.2 (7.7-8.4); mandible, 15.3, 15.2 (14.6-15.5); mandibular tooth row, 7.8, 7.8 (7.6-8.0). Means and extremes of external measurements of the Roseau series (6 specimens) made by the collector, R. F. Klinikowski, follow the measurements of the holotype (in italics): forearm, 43, 43 (42-45); head and body, 65, 64.5 (63-65); hind foot, 13, 13.2 (12-15); ear 14, 15.2 (14-16); tragus, 6, 6.2 (6-7).

Paratypes: Total, 9. DOMINICA, 1 (MCZ), 1 (PM); St. Paul Parish, 6 mi. NE Roseau, 5 (ASFS), 1 (USNM). MARTINIQUE, Morne Rouge, 1 (MCZ).